

Descriptions

- The S78DL15 is a linear voltage regulator that provides 150mA of output current in the TO-92 package. This regulator has low dropout voltage and low quiescent current and current limit protection.

Features

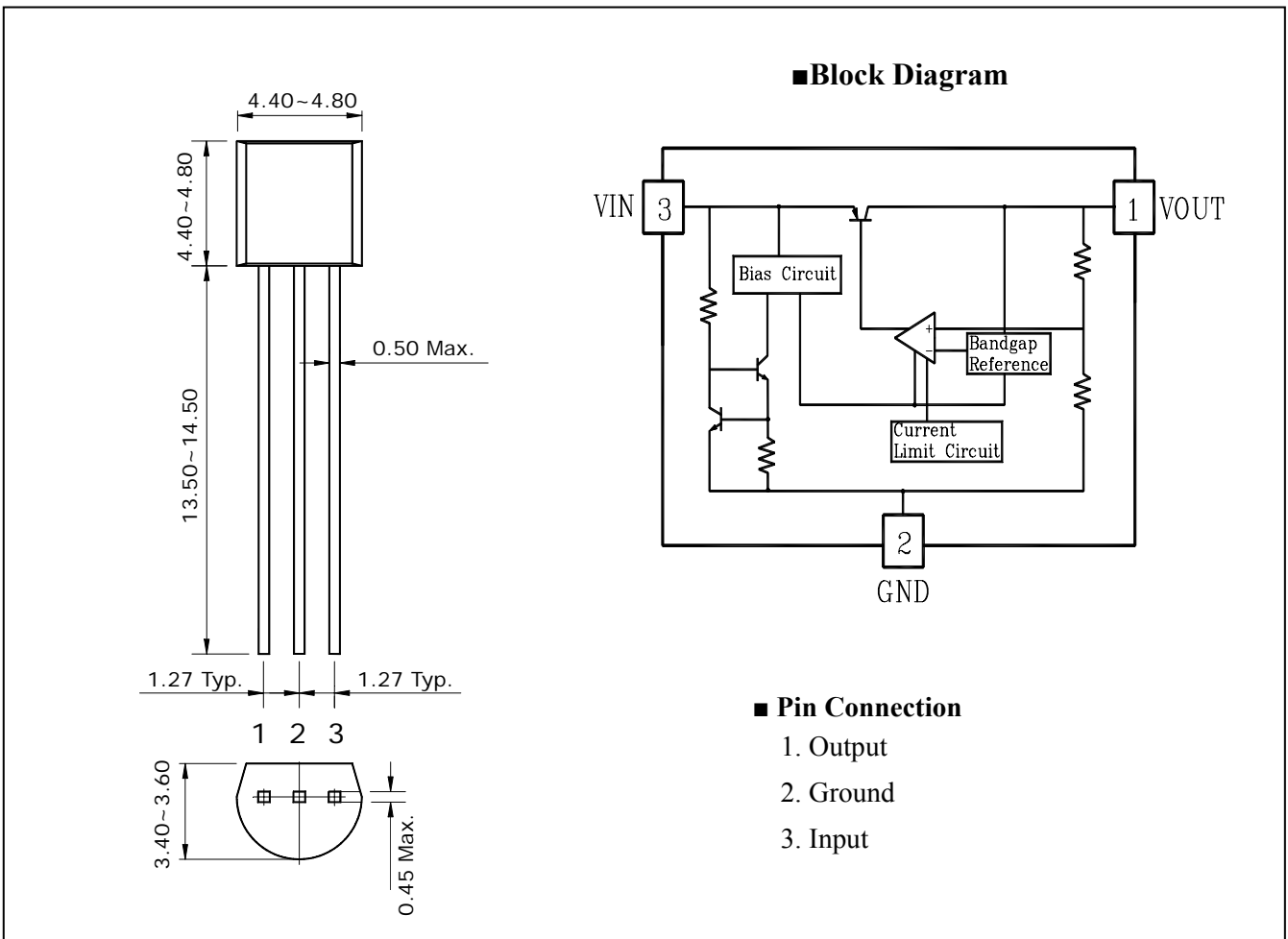
- Low Quiescent Current Consumption (250uA Typ.)
- Maximum Output Current (150mA Max.)
- Less Input/Output Voltage Difference (600mV Max @ $I_O=100mA.$)

Ordering Information

Type NO.	Marking	Package Code
S78DL15	S78DL15	TO-92

Outline Dimensions

unit: mm



Maximum ratings

Ta=25°C

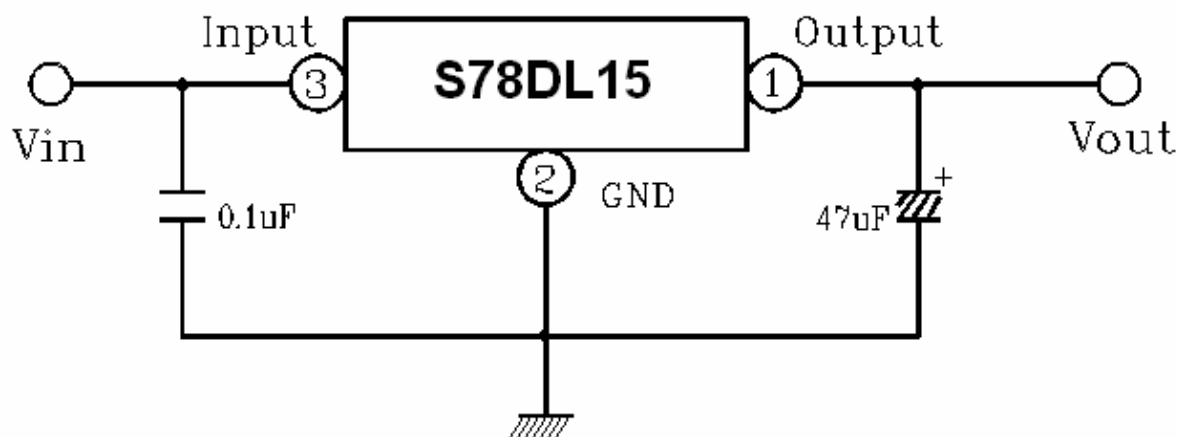
Characteristic	Symbol	Ratings	Unit
Operating Input Voltage	V _{IN}	16	V
Power Dissipation	P _D	625	mW
Junction Temperature	T _j	150	°C
Operating Temperature Range	T _{OPR}	-40~+85	°C
Storage Temperature Range	T _{stg}	-55~150	°C

Electrical Characteristics

(Electric Characteristic at V_{IN}=V_O+1.0V, I_{OUT}=100uA, T_j=25°C, unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V _O	V _{IN} =2.5V, I _{OUT} =100uA	1.44	1.50	1.56	V
Line Regulation	ΔV _{O(ΔV_I)}	V _{IN} =2.5V~10V, I _{OUT} =100uA	-	1	5	mV
Load Regulation	ΔV _{O(ΔI_O)}	V _{IN} =2.5V, I _{OUT} =1~150mA	-	15	28	mV
Dropout Voltage	V _{DROP}	I _{OUT} =50mA	-	450	500	mV
		I _{OUT} =100mA	-	500	600	
Ripple Rejection Ratio	RR	f=120Hz, I _{OUT} =100uA	-	75	-	dB
Quiescent Current	I _{QC}	V _{IN} =2.5V, I _{OUT} =100uA	-	250	400	uA
		V _{IN} =2.5V, I _{OUT} =50mA	-	1.5	3.0	mA
		V _{IN} =2.5V, I _{OUT} =100mA	-	3.5	5.0	mA

■ Test circuit



Electrical Characteristics Curves

Fig.1 I_O vs. V_{DROD}

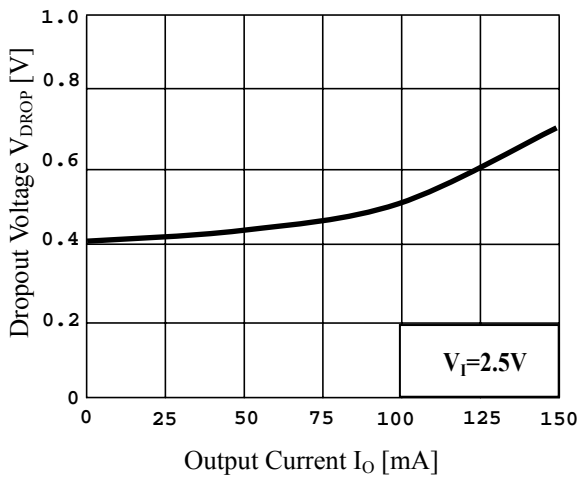


Fig.2 V_I vs. I_{QC}

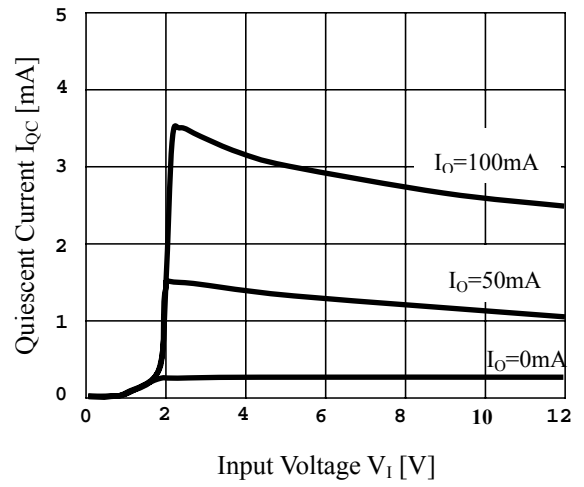


Fig.3 P_D vs T_a

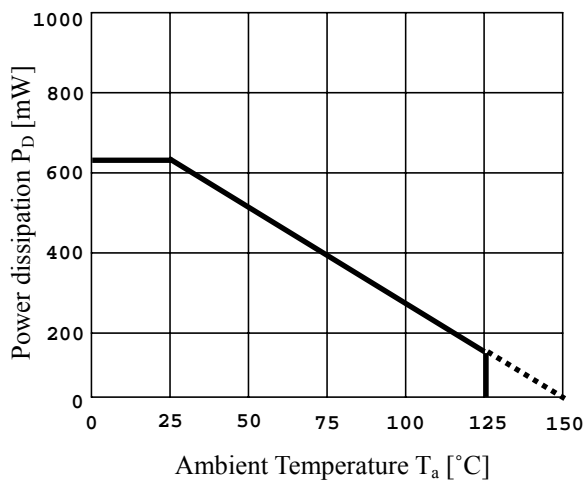
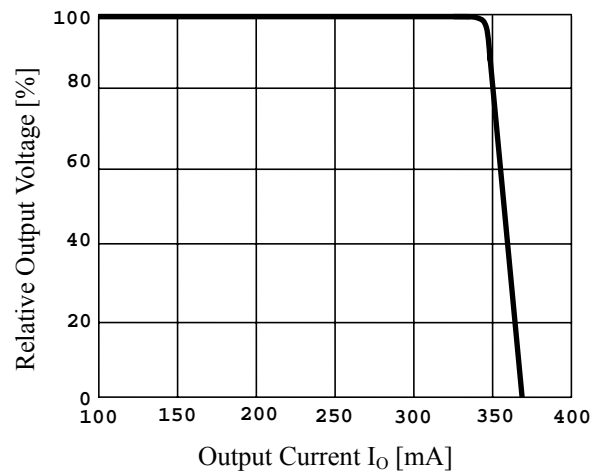


Fig.4 I_O vs. V_O



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